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G01F 1/58(21) Application number: **60175268**(71) Applicant: **YOKOGAWA ELECTRIC CORP**(22) Date of filing: **09.08.85**(72) Inventor: **KUROMORI KENICHI**(54) **ELECTROMAGNETIC FLOWMETER**

after spray coating and is thus formed.

(57) Abstract:

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PURPOSE: To obtain an electromagnetic flowmeter which is strong to abrasive fluid and is low in cost by providing a measuring pipe constituted by coating a high polymer material having an insulating characteristic onto a thermally sprayed ceramic layer formed by thermal spraying of a ceramic material to the inside surface of a conduit.

CONSTITUTION: The stainless steel conduit 19 has flanges 20a, 20b at the end faces and is formed with notches 21a, 21b to the side faces thereof. The inside surfaces of the conduit 19 and the surfaces of the notches 21a, 21b are roughened and powder mixed with Ni and Cr is undercoated on the roughened surfaces by plasma spraying. Ceramics such as alumina having wear resistance is blast-sprayed to the undercoated surfaces and a carrier gas is heated to a high temp. by DC arc discharge to partially ionized plasma state. The ceramic powder material is blown into the plasma jet and is melted by heating so as to collide against the substrate surface and to form the film thereof. A fluororesin is coated on the ceramic sprayed layer 22 to form an insulation coating layer 23. The coating layer is baked

